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REPORT OF THE FEDERAL HORTICULTURAL BOARD.

UNITED STATES DEPARTMENT OF AGRICULTURE,
FEDERAL HORTICULTURAL BOARD,
Washington, D. C., September 29, 1914.

SIR: I submit herewith an executive report covering the administration of the plant quarantine act for the fiscal year ended June 30, 1914.

Respectfully,

C. L. MARLATT,
Chairman of Board.

Hon. D. F. HOUSTON,
Secretary of Agriculture.

FEDERAL PLANT QUARANTINE ACT.

Under the Federal plant quarantine act of August 20, 1912, the entry of foreign nursery stock and other plants and plant products into the United States is regulated, and domestic and foreign quarantines on account of plant diseases and insect pests are established and maintained.

ADMINISTRATION AND PERSONNEL.

FEDERAL HORTICULTURAL BOARD.

The personnel of the Federal Horticultural Board, which administers the act, remained the same as last year, viz:

C. L. Marlatt, chairman, Bureau of Entomology; W. A. Orton, vice chairman, Bureau of Plant Industry; George B. Sudworth, Forest Service; W. D. Hunter, Bureau of Entomology; A. V. Stubenrauch, Bureau of Plant Industry. R. C. Althouse, secretary of the board, has charge of the administrative office.

FEDERAL AND STATE INSPECTION SERVICE.

The Federal and State inspection service remains substantially the same as last year, the Federal work having been under the charge as heretofore of Mr. E. R. Sasser and Mr. Perley Spaulding. The number of State expert inspectors appointed as collaborators remains substantially the same as last year. The great bulk of the nursery stock and other plant importations enters through the port of New York, and it has been found necessary to place a permanent inspector at this port. Mr. H. B. Shaw has been transferred to this work from the Bureau of Plant Industry of this department. His duties relate particularly to the inspection of plant importations from countries

without inspection service and the inspection of potatoes and avocados offered for entry under the regulations requiring inspection.

Some work now completed, in part continued from last year, has been necessary in foreign countries, partly in the nature of inspection and partly investigative. Such work in relation to foreign quarantines is necessarily of an emergency character and temporary.

Similar field examinations and investigations have been necessary in connection with some of the domestic quarantines. This work has been, for the most part, done in cooperation with the Bureaus of Entomology and Plant Industry by special expert agents detailed from these bureaus.

COOPERATION WITH OTHER DEPARTMENTS.

The State, Treasury, and Post Office Departments have continued their hearty cooperation in carrying out the provisions of the plant quarantine act, and in enforcing the several domestic and foreign quarantines which have been established thereunder. In the case of the Treasury Department the foreign quarantines have very materially increased the duties of the customs officers, and the assistance rendered by these officials has been of the greatest value. The Consular Service of the State Department has been utilized in enforcing foreign plant quarantines, by refusing to certify invoices of shipments of quarantined articles intended for the United States, and the cooperation of foreign governments has also been effected through the State Department.

Through the cooperation of the Post Office Department the interstate shipment by mail of plants and plant products covered by our domestic quarantines, unless properly inspected and certified, has been prevented. In the last report attention was called to the signal service rendered by the Post Office Department in prohibiting the importation of "nursery stock," as defined in the act, in the mails from foreign countries on and after July 1, 1913, except as to plants addressed to or ordered by and intended for the United States Department of Agriculture, Washington, D. C. This action was taken by the Post Office Department under its own authority at the request of the Department of Agriculture, for the reason that it is utterly impracticable for the State inspectors to follow up and examine the small mail shipments of plants which may arrive at any one of the many thousand post offices in the United States. It was found, however, that foreign shippers, and postmasters as well, were quite unable to make the distinction between "nursery stock" and "herbaceous plants," and that a considerable quantity of nursery stock was still being mailed under the designation "herbaceous plants." To put an end to the frequent and probably unwitting violation of the post-office order, the Second Assistant Postmaster General, at the request of this department, December 16, 1913, amended the former order by extending the prohibition against mail shipments to all plants and plant products for propagation, with the exception of field, vegetable, and flower seeds. While this restriction of the use of the mails necessarily results in occasional inconvenience, the protection to the country as a whole fully justifies the action taken.

REVIEW OF THE WORK OF THE YEAR.

NEW PLANT QUARANTINES AND RESTRICTING ORDERS.

The domestic and foreign quarantines described below are additional or supplementary to the quarantines reported last year.

FOREIGN QUARANTINES.

PINK BOLL WORM OF COTTON.—Amendment 1 to Quarantine No. 8, promulgated August 18, 1913, and providing, under regulation, for the entry from the States of Nuevo Leon and Tamaulipas, Mexico, of cotton seed (including seed cotton) and cottonseed hulls grown in the Rio Grande Valley in the States named.

Amendment 2 to Quarantine No. 8, promulgated June 17, 1914, and providing, under regulation, for the entry from the States of Coahuila, Durango, and Chihuahua, Mexico, of cotton seed (including seed cotton) and cottonseed hulls grown in the States named. The regulations in this amendment supersede all prior regulations governing the importation of cotton seed from Mexico.

POTATO QUARANTINE.—This is Quarantine No. 11, promulgated December 22, 1913, to prevent the introduction into the United States of the disease known as powdery scab (*Spongospora subterranea*) and forbids the importation into the United States, from the Dominion of Canada, Newfoundland, the islands of St. Pierre and Miquelon, Great Britain, Ireland, and Continental Europe, of the common or Irish potato (*Solanum tuberosum*), until such time as it shall have been ascertained to the satisfaction of the Secretary of Agriculture that the country or locality from which potatoes are offered for import is free from powdery scab and other injurious potato diseases.

Amendments 1, 2, and 3 to Quarantine No. 11, promulgated February 20, 1914, February 20, 1914, and March 12, 1914, respectively, eliminating the Kingdoms of Belgium, Denmark, and the Netherlands from the provisions of Quarantine No. 11, and making it possible to import potatoes from these countries in accordance with the regulations prescribed under the order of the Secretary of Agriculture of December 22, 1913, governing the admission of foreign potatoes under restriction.

Amendment 4 to Quarantine No. 11, promulgated June 25, 1914, providing for the elimination of the Territory of Porto Rico from the provisions of Quarantine No. 11 and the regulations governing the importation of potatoes into the United States.

AVOCADO SEED QUARANTINE.—This is Quarantine No. 12, promulgated February 27, 1914, to prevent the introduction into the United States of the avocado weevil (*Heilipus lauri*), and forbids the importation into the United States of the seeds of the avocado or alligator pear from Mexico and the countries of Central America.

SUGAR CANE QUARANTINE.—This is Quarantine No. 15, promulgated June 6, 1914, to prevent the introduction into the United States of injurious insects and fungous diseases of the sugar cane, and forbids the importation into the United States from all foreign countries of living canes of sugar cane, or cuttings or parts thereof. This quarantine does not apply to Hawaii and Porto Rico.

DOMESTIC QUARANTINES.

Under the provisions of section 8 of the plant quarantine act, the following domestic plant quarantines have been established:

MEDITERRANEAN FRUIT FLY AND MELON FLY.—This is Quarantine No. 2, promulgated September 18, 1912, and revised and amended as Quarantine No. 13, promulgated March 23, 1914, to protect the United States from the entry of the Mediterranean fruit fly (*Ceratitis capitata*) and the melon fly (*Dacus cucurbitæ*), now thoroughly established in the Hawaiian Islands. This quarantine prohibits the shipment of any of the fruits, nuts, and vegetables specified in the notice of quarantine into or through any other State, Territory, or District of the United States, with the exception of bananas and pineapples, which may be moved only in accordance with the regulations prescribed under this quarantine. This quarantine became effective May 1, 1914.

POWDERY SCAB OF POTATOES.—This is Quarantine No. 14, promulgated April 25, 1914, to prevent the further distribution in the United States of the dangerous potato disease known as powdery scab (*Spongospora subterranea*), which exists in certain portions of the State of Maine. This quarantine will become effective August 1, 1914.

SUGAR CANE QUARANTINE.—This is Quarantine No. 16, promulgated June 6, 1914, to prevent the further distribution in the United States of certain injurious insects and fungous diseases of the sugar cane existing in the territories of Hawaii and Porto Rico, and forbids the movement from the Territories named into or through any other State, Territory, or District of the United States of living canes of sugar cane, or cuttings or parts thereof.

ORDERS RESTRICTING THE ENTRY OF POTATOES AND AVOCADOS.

Under the authority given by section 5 of the plant quarantine act, orders placing restrictions on the importation of potatoes and avocados have been promulgated.

The order restricting the admission of all foreign potatoes not under quarantine was issued December 22, 1913, and regulations governing the entry of potatoes under this order into the United States were issued December 30, 1913. This order specifies that potatoes may be imported only from countries which are free from injurious potato diseases and insect pests and under permit and prior foreign inspection and certification. All such imported potatoes are subject to a second inspection by a Federal inspector on their arrival in this country.

The order governing the admission of the avocado or alligator pear under restriction was issued February 27, 1914. These two orders are supplemental to the quarantine orders described above in relation to the potato and to avocado seed.

ENFORCEMENT OF DOMESTIC AND FOREIGN QUARANTINES AND RESTRICTIVE ORDERS.

Domestic quarantines provide in general for the movement of the quarantined articles under a system of inspection and certification. Of the several domestic quarantines now in force, two only

necessitate much expenditure for inspection and certification. These are the gipsy moth and brown-tail moth quarantine, covering most of the New England States, and the Mediterranean fruit-fly quarantine, covering the Hawaiian Islands. The cost of the administration of these two quarantines is met from special appropriations by Congress in relation to these two problems. The material cooperation and assistance of State inspectors and authorities of the New England and Pacific Coast States, respectively, has been continued. Some necessary extensions have been made in the quarantine lines of New England, and some additional regulations and safeguards have been placed about the movement of fruit from the Hawaiian Islands.

Foreign quarantines prohibit the entry of the goods covered, and entail very little expense and difficulty in enforcement as a result of the hearty cooperation of the customs service. Commercial importations are not possible nor attempted, and small shipments of the quarantined articles sent in ignorance of the law are stopped by customs officers and destroyed or returned to the country of origin.

The enforcement of the orders providing for the entry of foreign potatoes and avocados under restriction necessitates examinations at the port of entry, with certain resulting expense. This expense is reduced to a minimum by limiting entry practically to the port of New York, which is, furthermore, the main port of arrival for these two articles.

NURSERY STOCK IMPORTATIONS.

The control of imported nursery stock established last year has been continued without material change.

FOREIGN COUNTRIES MAINTAINING INSPECTION SERVICE.

The following countries have provided for inspection and certification in conformity with the regulations under the plant quarantine act:

Australia.	Ireland.	Scotland.
Barbados.	Italy—Province of Padova	Union of South Africa.
Belgium.	(Padua) only.	Straits Settlements.
Bermuda.	Japan.	Switzerland.
British Guiana.	Leeward Islands:	Trinidad.
Canada.	Antigua.	Wales.
Cuba.	St. Christopher-Nevis.	Windward Islands:
Denmark.	Dominica.	Granada.
England.	Montserrat.	St. Lucia.
France.	Virgin Islands.	St. Vincent.
Germany.	Grand Duchy of Luxem-	
Guatemala.	burg.	
Holland.	New Zealand.	

Italy expects to have an inspection service in operation for the entire country early next fall.

This list includes practically all of the countries which have hitherto maintained any considerable commercial trade in nursery stock with the United States. Any other country may obtain the privilege of commercial exportation to the United States by providing an inspection service.

In the main, the importers and exporters of nursery stock have endeavored to comply with the law and meet all of its conditions, and in only a few instances was it necessary to return shipments of nursery stock or to destroy the stock on account of infestation.

DISTRIBUTION OF IMPORTED NURSERY STOCK, BY STATES.

The following table indicates the distribution, by States, of nursery stock imported during the fiscal years 1912-13 and 1913-14:

Distribution of imported nursery stock, by States.

State.	Number of cases.		State.	Number of cases.	
	1913-14	1912-13		1913-14.	1912-13.
Alabama.....	425	278	Montana.....	26	12
Arizona.....	4	2	Nebraska.....	149	100
Arkansas.....	11	24	Nevada.....	2
California.....	1,929	1,144	New Hampshire.....	57	63
Colorado.....	152	144	New Jersey.....	10,458	7,966
Connecticut.....	1,432	1,177	New Mexico.....	1	1
Delaware.....	38	29	New York.....	12,363	11,521
District of Columbia.....	562	774	North Carolina.....	162	167
Florida.....	56	57	North Dakota.....	8	1
Georgia.....	196	160	Ohio.....	3,068	2,475
Hawaii.....	4	Oklahoma.....	13	7
Idaho.....	9	12	Oregon.....	560	244
Illinois.....	3,942	2,977	Pennsylvania.....	9,309	6,540
Indiana.....	545	510	Rhode Island.....	606	404
Iowa.....	394	422	South Carolina.....	41	15
Kansas (north).....	48	238	South Dakota.....	16	9
Kansas (south).....	286	Tennessee.....	200	124
Kentucky.....	352	204	Texas.....	184	109
Louisiana.....	416	329	Utah.....	35	8
Maine.....	51	29	Vermont.....	20	36
Maryland.....	553	404	Virginia.....	338	153
Massachusetts.....	5,115	3,602	Washington.....	482	200
Michigan.....	1,232	851	West Virginia.....	102	248
Minnesota.....	528	314	Wisconsin.....	334	221
Mississippi.....	35	25			
Missouri.....	676	451	Total.....	57,525	44,781

COUNTRY OF ORIGIN AND NATURE OF NURSERY-STOCK IMPORTATIONS.

Country of origin and classes of plants and seeds imported during the year ended June 30, 1914.

Country.	Fruit trees.	Fruit-tree stocks.	Grape-vines.	Bush fruits.	Roses.	Rose stocks.	Forest and ornamental deciduous trees.	Ornamental deciduous shrubs.	Coniferous trees other than pines.	Pines.	Ever-green trees.	Ever-green shrubs.	Field-grown florists' stock.	Stocks, cuttings, or seedlings.	Tree seeds.	Avocado seeds.
Algeria.													22,985		Pounds.	Pounds.
Australia.				2,000												
Austria.			101													
Azores.					6											
Belgium.	8,500			1,010	9,826		13,299	263,730	50,043		54,440	213,308	101,460	275	165,000	
Bermuda.					6			37	2				5,021			
Brazil.													42,994		238,405	
Canada.	35,881						1,300		1,000				5			
China.	20															
Colombia.																
Costa Rica.																
Cuba.													108,522		871	
Denmark.													25			
Fiji Islands.								2,272					2,157			
England.	13,572			27,693	41,327	2,083,000	15,194	25,718	7,604	400	8,007	20,015	24,640			
France.	6,682,240	14,391,766	115	115	318,625	1,022,450	1,096,798	3,229,535	571,298	48,740	452,246	278,858	426,259	306,217	2,073	
Germany.	66,269		122,875	1,382	33,419		67,063	8,378	229	20	18	8,416	9,012		1,049	
Germany, Duchy of																
Luxemburg.					11,458											
Greece.			1,031													
Guatemala.	1												876			
Holland.	903,681	231,700	1,775	10,714	1,439,718	92,925	380,172	556,819	202,995	5,914	50,451	576,158	149,932			
Ireland.				48	43,256	193,000	56		280			137	56			
Italy.	19		5,440					30					730		1,570	
Jamaica.																
Japan.	8,993	6,200	1,670	6	250	5	4,014	2,637	8,359	2,965	1,623	2,406	56,397	1,700	1,410	1,592
Mexico.													189			
New South Wales.															32	
New Zealand.																
Nova Scotia.																
Panama.									25	3		5	353			
Philippine Islands.																
Puerto Rico.													756			
Scotland.	296		56	144	5,765	165,000	45,306	21	3			1,173	31,102			
Switzerland.					51								56			
Trinidad.														15		
Venezuela.													1,707			
													135,244			
Total.	7,809,502	14,629,666	133,063	109,137	1,903,707	3,556,380	1,623,202	4,089,177	841,438	57,982	566,790	1,105,471	1,120,483	808,207	718,617	1,592

INSPECTION OF IMPORTED NURSERY STOCK.

As pointed out last year, the plant quarantine act contemplates that the actual examination of commercial importations of nursery stock shall be made by State officials and at State cost, and unless this examination is made by such State officials such stock must necessarily go without inspection. Unfortunately, some States have not been able to inspect all of the foreign nursery stock consigned to them, and one or two States have made no provision or have neglected to make proper inspections. Fortunately, the States concerned are not horticulturally important. Nevertheless, if insects or diseases gain foothold in these States, the general spread of such enemies is only a question of time.

The examination of noncommercial importations of nursery stock from countries which do not maintain nursery-stock inspection is, under the provisions of the act, made at the port of entry by inspectors of this department, and, therefore, the inspection of such nursery stock is under our full control. The importations, however, of this class are not of large amount.

As in the past, all importations made by the Department of Agriculture have been subjected to a rigid inspection, and where necessary such material has been held in quarantine or destroyed, as the conditions warranted. With one exception, all of the department's experimental gardens were inspected, both for diseases and for insects.

To keep the State inspectors and their assistants thoroughly familiar with the pests collected on imported stock, a monthly news letter is issued, listing all reported insects and diseases.

RESULTS OF STATE AND FEDERAL INSPECTION OF IMPORTED PLANTS AND PLANT PRODUCTS.

As a result of State and Federal inspection, the following recognized pests were intercepted on imported plants and plant products during the year: Fourteen instances of brown-tail moth infestation have been reported on nursery stock originating in France, and two instances of egg masses of the gipsy moth, one from Japan and one from Belgium. Two shipments of Egyptian cotton seed were found to be infested with the pink boll worm (*Gelechia gossypiella*). Fertile eggs of an undetermined tree hopper were detected on eight shipments of cuttings from China. Adults of the olive fruit fly (*Dacus oleae*) were collected in a box of olive seed from Cape Town, South Africa, and puparia of the papaya fruit fly (*Toxotrypana curvicauda*), from which adults were reared, were found attached to an unknown vine from Mexico. Shipments of potatoes from Peru, Bolivia, and Chile were found to be infested with no less than two species of potato weevils (*Premnotrypes solani* and *Trypopermnon latithorax*) which are new to the United States. These are in addition to the related potato weevil (*Rhigopsidius tucumanus*) referred to in last year's report as infesting potatoes from Peru. The citrus leaf miner (*Phyllocnistis citrella*), considered especially injurious to young nursery stock in the Orient, was detected on citrus plants from the Philippine Islands. The European tussock moth (*Notolophus antiqua*) and the oriental moth (*Cnidocampa flavescens*) have been reported on a number of occasions as entering on imported stock. In addition to the above, many scale insects of greater or less importance have been found on plants of

various descriptions. In all, some 191 species of insects have been reported on imported stock.

Potatoes from Holland, Belgium, and Denmark, on inspection at the port of entry, were found to be infected with the powdery scab (*Spongospora subterranea*). In addition to this injurious potato disease some 54 fungous diseases affecting miscellaneous shipments have been detected.

All of the pests enumerated above, the entry of which has been prevented, are capable of becoming very important enemies of our crops, but, on account of the great value of the crops involved, the prevention of the entry of the seriously infested Egyptian cotton seed and of disease and insect-infested potatoes is especially important, and these latter items, therefore, deserve explanation.

INFESTED EGYPTIAN COTTON SEED.

The danger from the so-called pink boll worm led last year to the promulgation of Quarantine No. 8, generally prohibiting the importation into the United States of cotton seed. The urgent need of this quarantine was early shown in the present year by the detection and holding by customs officials of several small shipments of cotton seed offered for entry at the ports of New York and Boston. This cotton seed was forwarded to the Department of Agriculture and examined prior to being destroyed by burning and proved to be badly infested with the pink boll worm, an insect which is now doing more damage in Egypt than all other cotton-insect pests combined, and which, fortunately, has not yet gained a foothold in this country. Its partly grown larva lives in the cotton seed, and is thus easily transported. Greater seriousness has this year been added to the problem by the discovery that, owing to imperfect ginning, some cotton seed remains in baled Egyptian cotton, the average of seed per bale being about 215. While the great majority of the larvæ in the seed contained in such baled cotton have apparently been killed by compression or other causes, a number of living worms in seeds have been found, indicating a distinct danger from the use of such baled cotton, particularly in southern mills, which are often situated in the midst of cotton fields. A public hearing was held in May, 1914, to discuss the regulation of the transportation and use of foreign lint cotton in order to protect southern cotton growers from the pink boll worm. Final action has been deferred awaiting the result of experiments now under way in this department, in cooperation with the Bureau of Standards, to determine the practicability of treating baled Egyptian cotton to destroy all contained insect life. In the meantime all mills using imported Egyptian cotton have been requested to destroy by burning at the close of each day all picker waste and seeds from such cotton. Assurances of compliance with this request have been received from practically every mill using such cotton.

Correspondence has been had also with Mr. Gerald C. Dudgeon, consulting agriculturist and minister of agriculture at Cairo, Egypt, with a view to getting the Egyptian authorities to adopt some method of baling or treating cotton to eliminate the danger at the country of origin. In a recent communication Mr. Dudgeon states that he is again bringing the matter before the Alexandria shippers.

POWDERY SCAB OF THE POTATO.

Quarantine No. 11, described above, prohibited the importation into the United States of potatoes from the Dominion of Canada, Newfoundland and adjacent islands, and Europe. Provision was made, however, for the lifting of this quarantine as to any of the countries quarantined when such country could show a clean bill of health in relation to powdery scab and other injurious potato diseases. The necessity of this quarantine action was early shown by the passage through the port of New York of large shipments of potatoes from Ireland, en route to Cuba, which, on request, were examined by an inspector of this board and found to be generally and badly infested with the powdery scab.

As a result of representations made by the Kingdoms of Belgium, Denmark, and the Netherlands the quarantine was raised as to these countries and the importation of potatoes therefrom was permitted, in accordance with regulations under the order of the Secretary of Agriculture of December 22, 1913, governing the admission of foreign potatoes under restriction.

The first importation of Belgian potatoes after the lifting of this quarantine was found by our inspector at the port of entry to be infected with powdery scab, and it became necessary, in accordance with our regulations, to cancel all permits for the importation of potatoes from Belgium and to refuse entry to the Belgian potatoes. The potatoes from Denmark have been free from infection, with the exception of some potatoes from the island of Bornholm. This led to similar action in the case of Denmark. Subsequently, the Government of Denmark arranged to refuse to certify shipments from the island of Bornholm, and the entry of potatoes from other regions of this country is now permitted. In the case of the Netherlands it developed that the Provinces of Groningen and Drenthe were more or less affected with powdery scab, and a similar arrangement has been entered into with that country, namely, that no potatoes from these Provinces will be certified for export to the United States. The importation, therefore, of European potatoes into the United States is limited at the present time to Denmark, except the Island of Bornholm, and the Netherlands, except the Provinces of Groningen and Drenthe. It may be possible in the near future to lift the quarantine as to certain Canadian Provinces. The importation of potatoes under the restrictions of the order of December 22, 1913, is also now permitted from the Bermuda Islands and the Mexican States of Sonora and Chihuahua.

NEW POTATO WEEVILS.

The three potato weevils found during the last two years infesting small shipments of potatoes from Peru, Bolivia, and Chile are an entirely new form of potato pest. These weevils totally destroy the potato tuber and could easily cause tremendous losses in this country. The fact that they were found in wild potatoes from the region in which the potato plant is supposed to have originated is significant as indicating that they are natural and historic enemies of this plant. The greatest care will be taken to see that these new pests do not gain entrance, and no potatoes from this region will knowingly be allowed entry into the United States.

REGULATORY INVESTIGATIONS.

FOREIGN INVESTIGATIONS.

The investigation of fruit-fly conditions in Mediterranean countries, conducted by Prof. H. J. Quayle, of the University of California, referred to in the last report, has been completed. The lemon is the important fruit product received from Mediterranean regions, and Prof. Quayle's investigations have demonstrated that there is little danger of the introduction of the Mediterranean fruit fly with this fruit. Prof. Quayle's report is in process of publication.

Dr. H. W. Wollenweber, an employee of the Bureau of Plant Industry, had been commissioned to make a study in European countries of certain plant diseases for that bureau, and his services were utilized to determine the range of powdery scab in European countries in connection with the potato quarantine.

A thorough inspection of Sonoran citrus cultures was made for the board by Mr. R. S. Woglum, of the Bureau of Entomology, as a basis for the permission subsequently granted for the shipment of Sonoran oranges in bond over a specified route through the United States to Canada, and through a portion of the United States for reentry into Mexico.

In response to urgent requests, in view of the fact that the Mexican authorities were not able at the time to make official inspections, an agent of the Bureau of Plant Industry, Mr. O. A. Pratt, conducted for the board a thorough examination of the potato-producing areas in Chihuahua and Sonora. The freedom from serious disease shown by this inspection enabled the board to permit the exportation of these potatoes into the Southwest for local consumption, under a modification of the regulations issued with order of December 22, 1913, covering the entry of foreign potatoes.

DOMESTIC INVESTIGATIONS.

The investigations necessary to the determination of quarantine lines and as a basis for proper regulatory action in connection with domestic quarantines have been conducted in cooperation with the Bureau of Plant Industry in relation to the potato quarantine, and in cooperation with the Bureau of Entomology in relation to the moth quarantine in New England and the Mediterranean fruit-fly quarantine in Hawaii. The other domestic quarantines have been of minor importance and have not called for any special investigations.







